Decomposing Negative Modals into their Syntactic Atoms

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1. LIS

- LIS is **SOV;**
- Modals are postverbal;
- Negation is postverbal and post-modal [1];
- In the variety under investigation, negative NMM (headshake) alone cannot negate the clause ($\neq$ LSC & DGS [2]);
- Negation can be incorporated into modal signs (more below; see also [3,4]);
- Negative concord is not allowed between a negative modal and a manual negation.

2. The Inventory

- 'Positive' Modals

- CAN_1 epist, ability, deontic

- CAN_2 ability

- CAN_3 deontic

- $MUST_1$ epist, deontic

- $MUST_2$ epist

- 'Negative' Modals

- CAN_1-NEG (derivative)

- $MOD.NEG_1$

- $MOD.NEG_2$ (suppletive)

3. The Problem

▶ Can we determine the semantics and **makeup** (if any) of suppletive modals?

We restrict our attention to manual signs.

4. Decomposing Negative Modals

- We evidence **split-scope** readings with 'negative modals', using ALWAYS;
- Those readings obtain both with the derivative (CAN_1-NEG) and with the suppletive ($MOD.NEG_{1/2}$) forms (1c)-(2c):

(1) a. GIANNI E-MAIL ANSWER ALWAYS {CAN_1-NEG/$MOD.NEG_1$}.
b. *'Gianni is unable to always answer emails.'* *(surface scope)*
$NEG > CAN_{ability} > ALWAYS$
c. Or: *'It is not always the case that Gianni can answer emails.'* *(▶split scope)*
$NEG > \mathbf{ALWAYS} > CAN_{ability}$

(2) a. GIANNI ANSWER ALWAYS $MOD.NEG_2$.
b. *'It mustn't be the case that Gianni always answers (the phone).'* *(surface scope)*
$MUST_{deontic} > NEG > ALWAYS$
c. Or: *'It must be the case that Gianni never answers (the phone).'* *(▶split scope)*
$MUST_{deontic} > \mathbf{ALWAYS} > NEG$

- The split-scope readings are **genuine readings,** despite the fact that they entail the surface scope readings:
  - **First case (1):** We ensure that ALWAYS is in the matrix, using anaphoric THAT, which replaces the complement clause fully:

(3) PIERO K2 CLIMB ON-TOP WANT. IX-3 THAT ALWAYS CAN_1-NEG/$MOD.NEG_1$.
'Piero wants to climb Mount K2. He is not always able to do so.'

  - **Second case (2):** A falsity test (4) shows that B reacts to the split-scope reading (we also ensure that ALWAYS does not in fact take scope in the matrix, over the modal (5)):

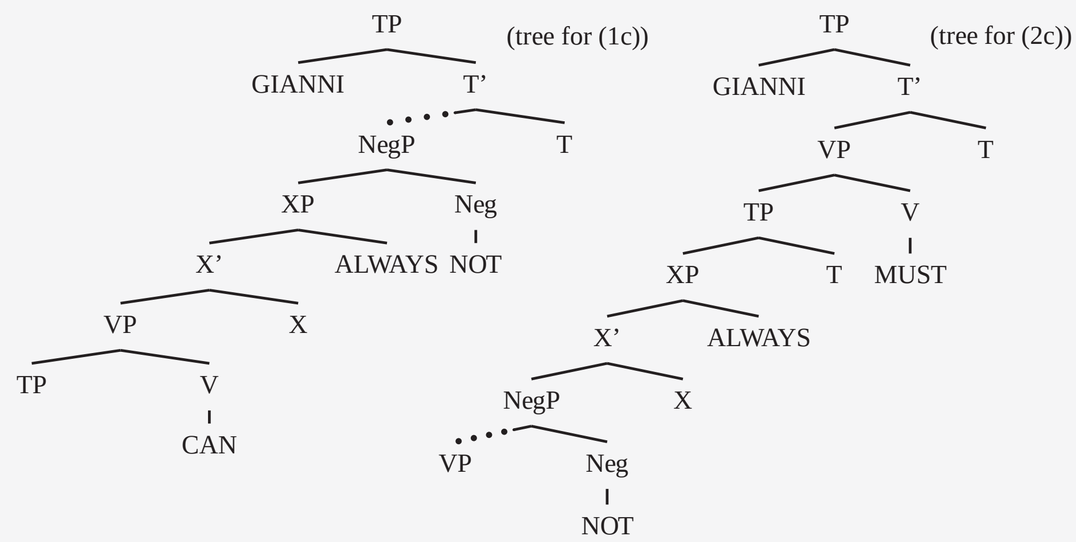
(4) *Context:* The rule is that Gianni doesn't always pick up the phone…
A: GIANNI ANSWER ALWAYS $MOD.NEG_2$. (2a)
B: NO, TRUE NOT, GIANNI ANSWER ONE CAN.
'No, that is not true, Gianni can pick up the phone (sometimes).'

(5) #RAMBO SURVIVE ALWAYS $MOD.NEG_2$. *ALWAYS>MODAL

- **Implications:**
  - The existence of split-scope readings shows that the suppletive forms are not atomic: evidence **against a lexicalist** approach;
  - Despite the logical equivalence between $\neg\Diamond$ and $\Box\neg$, we can thus infer what their real makeup is (another benefit of using the intervener ALWAYS):
    - $MOD.NEG_1$ comprises a modal (meaning $can_{epist/ability/deontic}$) and negation ($\neg\Diamond$);
    - $MOD.NEG_2$ comprises a modal (meaning $must_{epist/deontic}$) and negation ($\Box\neg$).

5. Conclusions and Theoretical Issues

- Modals in LIS take **surface** scope w.r.t. negation. ▶ (6) GIANNI ANSWER NOT MUST. MUST>NOT (7) GIANNI ANSWER MUST NOT. NOT>MUST



- This suggests that the split-scope readings reflect and reveal the 'underlying structures' shown opposite;
- The morphophonological process (fusion) does not affect scopal relations.

Open Issues:

- Adjacency is **not** a necessary condition for fusion (similar facts observed in Korean [5]); there may even be a clause boundary intervening (2);
- If fusion is a by-product of head movement, then, surprisingly, the moving element is the modal in one case, and negation in the other case.
- In LIS and in the many languages (mainly but not exclusively signed) that exhibit suppletive negative modals, only some combinations seem to be attested.
  Generalization: Of the two possible combinations of a modal with negation, only the logically stronger one can be retained in a fused form (✓$\neg\Diamond$, $\Box\neg$; *$\Diamond\neg$, $\neg\Box$).

References

[1] **Geraci, Carlo.** 2006. "Negation in LIS", Proceedings of NELS 35. • [2] **Pfau, Roland and Josep Quer.** 2003. "V-to-Neg Raising and Negative Concord in Three Sign Languages". • [3] **Zeshan, Ulrike.** 2005. "Irregular Negatives in Sign Languages". WALS. OUP, 558–67. • [4] **Shaffer, Barbara.** 2002. "Can't: The Negation of Modal Notions in ASL", Sign language studies, 3(1), pp. 34-53. • [5] **Chung, Inkie.** 2007. "Suppletive Negation in Korean and Distributed Morphology", *Lingua* 117: 95–148.

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